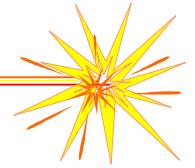




# Land Warrior Power Requirements



presented at the

## DARPA Palm Power Workshop

14 November 2000

Fort Lauderdale, FL

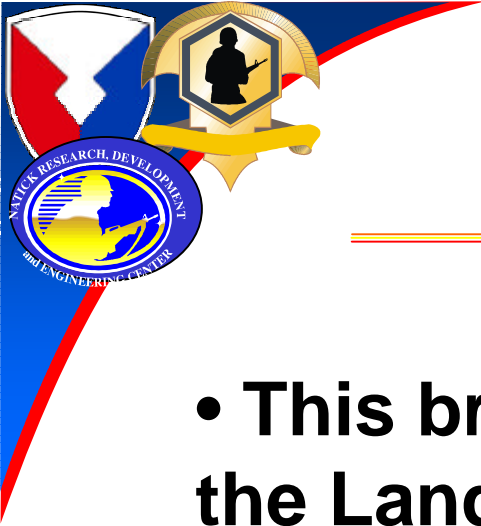
presented by

**Scott Feldman**

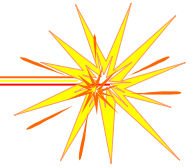
**Warrior Systems Integration Team**

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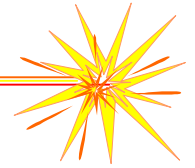
## Scope of This Briefing



- This briefing covers requirements only for the Land Warrior's portable communication and electronic equipment.
- This briefing DOES NOT cover power/energy for other capabilities (e.g. micro-climate conditioning.)



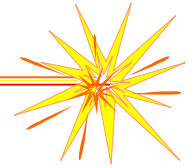
# Land Warrior ORD



- User Requirements are defined in a document titled *Operational Requirements Document for Land Warrior*.
- TRADOC Systems Manager (TSM)-Soldier creates this document. It is revised based on negotiations with PM-Soldier.
- This document is currently under review.
- This briefing is based on the most recent draft version (3 Nov 2000) which has not yet been formally published.
- Two approaches are being considered:
  - Fixed weight for power source
  - Total systems weight. Power source requirement only specified for first phase.



# System Performance Requirement Categories



- Threshold Requirements

“The threshold value is the minimum acceptable value that is necessary to satisfy the need.”

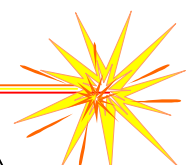
“ **KPP (Key Performance Parameter)** is that capability or characteristic so significant, that failure to meet the threshold can be cause for program re-evaluation.”

- Objective Requirements

“The objective value is that desired by the user.”



# Land Warrior Power/Energy Requirements - Fixed Wt. Approach

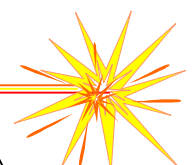


Time Phase	KPP	Objective
Initial Production (IP) 1QFY03	12 Mission Hours Weight: 1.6 pounds	48 Mission Hours (Weight: 1.6 pounds)
IP + 2.5 Years 3QFY05	48 Mission Hours (Weight: 1.6 pounds)	72 Mission Hours (Weight: 1.6 pounds)
IP + 5 Years 1QFY08	72 Mission Hours (Weight: 1.6 pounds)	6 Day Duration (Weight: 1.6 pounds)

Source: Land Warrior ORD (Draft)  
Italics added for clarity



# Threshold Requirements



- The LW system will be configurable to function in the temperature range of **-25F to 130F**.
- The LW system will be **waterproof to a depth of one meter**, and operate in salt air and water conditions globally.
- The LW system, with all components functioning, will be **aurally non-detectable** (except when weapons are fired) **at 5 meters**.
- The system level **mean time to repair will not exceed 0.73 hours** for unscheduled on-system maintenance action.
- The LW soldier will be able to **power-up**, set up, authorize, and initialize the LW system with the user's pre-set configuration **within 3 minutes**.
- The LW system will be compatible with standard Infantry parachuting equipment, and will **not be adversely affected by airdrop**.
- **Weight, comfort, balance**, and user interface of the LW system integrated components will be optimized in accordance with sound human interface principles.
- The LW system shall comply with all applicable safety and health requirements so as **not to present safety and health hazards to soldiers** or maintenance personnel throughout its life cycle.



# Objective Requirements

- The LW system will be configurable to function in the temperature range of **-50F to 145F**.
- The LW system shall be **aurally non-detectable while in silent watch mode** at a distance of **one meter**
- The system level **mean time to repair will not exceed 0.66 hours** for unscheduled on-system maintenance action.
- LW shall be capable of drawing power and recharging batteries while mounted in selected Army, Air Force and Marine Corps fixed wing and rotary wing aircraft.